

# **CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT**

## ***Caguas Norte Filtration Plant***

***Caguas, Puerto Rico***

### **GENERAL INFORMATION**

<b>Stationary Source</b>	<b>Caguas Norte Filtration Plant</b>
<b>Date of Inspection</b>	January 23, 2009 (AM)
<b>USEPA Inspector</b>	Ellen Banner, – USEPA, REGION II (Edison, NJ) Miguel A. Batista, USEPA – Region II, Caribbean Office, Water Program Myrek Nunez, USEPA – Region II, Caribbean Office, Water Program
<b>Contract Auditor</b>	Neil Mulvey, Sullivan Group (Subcontractor)
<b>Description of Activities</b>	<ul style="list-style-type: none"><li>• Opening meeting with facility representative.</li><li>• Program audit.</li><li>• Closing meeting with facility representatives.</li></ul> Program audit consisted of the following activities: <ol style="list-style-type: none"><li>1. Document review.</li><li>2. Field verification.</li><li>3. Personnel interviews.</li></ol>

### **STATIONARY SOURCE INFORMATION**

<b>EPA Facility ID #</b>	1000 0012 3332
<b>Date of Latest Submission (used for RMP inspection)</b>	Receipt Date: January 30, 2008 (Re-submission)  Anniversary Date: January 28, 2013
<b>Facility Location</b>	Rafael Cordero Ave. and Perego St. Urb Caguas Norte Caguas, PR 00725  Tel. (787) 406-4727
<b>Number of Employees</b>	<i>RMP*Submit</i> states 4 employees (per RMP registration).

<b>Description of Surrounding Area</b>	The facility is located in a commercial / residential area in the north section of Caguas, PR. Residences and commercial businesses are located immediately adjacent to the facility. The facility is located on busy urban streets with pedestrian and automobile traffic.
<b>Participants</b>	Participants included representatives from:  Ellen Banner, USEPA – Region II, Edison, NJ Miguel A. Batista, USEPA – Region II, Caribbean Office, Water Program Myrek Nunez, USEPA – Region II, Caribbean Office, Water Program Neil P. Mulvey, USEPA Contractor – Sullivan Group Joel Morales, Operator – AAA Dabarat Perez, Compliance Specialist – AAA Mirton Perez, Plant Manager – AAA* Daniel Santos, Operations Supervisor – AAA  * Lead representative for Caguas Norte Filtration Plant

## REGISTRATION INFORMATION

<b>Process ID #</b>	73623 – Water Treatment Plant
<b>Program Level (as reported in RMP)</b>	Program 3
<b>Process Chemicals</b>	Chlorine @ 12,000-lbs.
<b>NAICS Code</b>	22131 (Water Supply and Irrigation Systems)

## GENERAL COMMENTS

The Caguas Norte Filtration Plant is one of many water and wastewater facilities owned by the Puerto Rico Aqueduct and Sewer Authority (PRASA). The facility treats and supplies potable water to the surrounding community. The design capacity of the facility is 6 MGD. The facility typically operates at 4 MGD.

The facility operates 24/7. Typically three or four operators are on-site during day shifts. At least one operator is on-site at all times.

The facility handles chlorine in 1-ton cylinders. The chlorine process includes a cylinder storage/scale area and injector room. The chlorine cylinder storage/scale area is an open-sided room. Immediately adjacent to the storage/scale area is the injector room, which is an enclosed room.

Two chlorine cylinders are connected at a time, one feeding the other in stand-by. A chlorinator is mounted directly onto the chlorine cylinder. The facility uses approximately 180 - 220-lbs. of chlorine per day. A maximum of six 1-ton chlorine cylinders are on-site at any time. At the time of this inspection there were two 1-ton chlorine cylinders on-site.

The process includes a chlorine detector located in the cylinder storage/scale area and a detector located in the injector room. The chlorine detectors provide a local audible and visual alarm at concentrations exceeding 3 PPM. There is no interlock between the chlorine detectors and the ventilation fan in the injector room. There is no off-site monitoring of the chlorine alarms.

## **RMP DOCUMENTATION**

The facility's written RMP procedures are contained in an RMP Manual, dated 10/23/07. The RMP Manual contains written procedures for each of the required program elements.

As noted above, only select RMP elements were reviewed during this inspection due to the limited time scheduled for the site visit.

RMP elements not reviewed during this inspection include:

- Process Safety Information (PSI) [40 CFR 68.65]
- Mechanical Integrity [40 CFR 68.73]
- Management of Change (MOC) [40 CFR 68.75] & Pre-Startup Review (PSR) [40 CFR 68.77]
- Incident Investigation [40 CFR 68.81]

### **Hazard Assessment [68.20-68.42]**

The facility used EPA's RMP Guidance & Reference Tables for Water and Wastewater Treatment Plants to determine the Worst Case and Alternative Case Off-Site Consequence Analyses (OCAs). The scenario descriptions and assumptions, parameters input to the models, distance to endpoints, and impacted residential population and environmental receptors were appropriate to the facility's operations and location.

### **Process Hazard Analysis (PHA) [40 CFR 68.67]**

The most recent PHA available for review consisted of a checklist review completed on 10/23/07. The PHA was lead by an outside consultant and included a team with operations and maintenance personnel from the facility. The PHA identified six

recommendations which facility management explained have been resolved, however there was no supporting documentation.

### **Standard Operating Procedures (SOPs) [40 CFR 68.69]**

The facility recently prepared step-by-step checklist procedures to address routine operations. Operating procedures include checklist procedures for the following activities.

- Connecting cylinders
- Normal operation
- End of shift
- Procedures for start-up following emergency shutdown
- Emergency operation procedure

There were no procedures for emergency shutdown or normal shutdown.

The checklist procedures require documentation after completion of a particular step. A review of records verified that completed checklists were not available for the end of shift checklist.

There was no record of annual certification of the checklist procedures.

### **Training [40 CFR 68.71]**

Training records of three operators were reviewed. Documentation verified initial operator training for two operators, but no records were available of initial operator training for Mr. Ricardo Garcia. All three operators received refresher training on the safe handling of 1-ton chlorine cylinders on 1/22/09. Documentation includes identification of who received training, name of instructor, training content, and duration of training (est. 7 hours).

There was no record of operator training on the chlorine process checklist procedures.

Facility management explained that written tests are given as a means to verify operator understanding of the training received. These written tests however were not available for review.

### **Compliance Audits [40 CFR 68.79]**

There was no record of any completed RMP compliance audits.

### **Employee Participation [40 CFR 68.83]**

The RMP/PSM Manual includes a written employee participation plan. Documentation was available regarding employee participation including participation in the PHA study and through documented employee training.

### **Hot Work Permit [40 CFR 68.85]**

The RMP/PSM Manual includes a written hot work permit procedure. Facility management reported that hot work is not performed at this plant.

### **Contractor Safety [40 CFR 68.87]**

The RMP/PSM Manual includes a written contractor safety procedure. Facility management reported that contractors are not utilized at this facility.

### **Emergency Response [40 CFR 68.90 – 68.95]**

The RMP/PSM Manual includes a written emergency response plan. The City of Caguas has a paid Fire Department which would respond to assist the facility in case of emergency. A call-down list with emergency telephone numbers was posted on the door of the chlorination room and the phone numbers listed verified and current.

There were written procedures for public notification and for emergency medical treatment in case of a chlorine release.

## **FACILITY TOUR & RECOMMENDATIONS**

Several items noted during the facility tour include:

- Facility management reported that the chlorine detector in the injector room was not operational. **The facility should ensure that all safety systems, including chlorine detectors, are operational, in accordance with good operating practices.**
- The injector room (which is an enclosed space) is equipped with a manually activated exhaust ventilation fan. **The facility should evaluate and consider interlocking the chlorine detector in the injector room with automatic activation of the exhaust ventilation fan in the event of a chlorine release in this enclosed space.**

## **FINDINGS**

### **Process Hazard Analysis (PHA) [40 CFR 68.67]**

- The most recent PHA available for review consisted of a checklist review completed on 10/23/07. The review identified six recommendations for consideration. There was no record of resolution for the PHA recommendations. **The facility must ensure that the PHA recommendations are resolved and documented, as required by 40 CFR 68.67(e).**

**Standard Operating Procedures (SOPs) [40 CFR 68.69]**

- The checklist procedures require documentation after completion of a particular step. A review of records verified that completed checklists were not available for the end of shift checklist. **The facility must ensure that all appropriate operating procedures are being followed as written, as required by 40 CFR 68.69(a).**
- The facility recently prepared step-by-step checklist procedures to address routine operations. There were no procedures for emergency shutdown or normal shutdown. **The facility must complete development of applicable operating procedures, including emergency shutdown and normal shutdown, as required by 40 CFR 68.69(a)(1)(iv) and (a)(1)(vi).**
- There was no record of annual certification of the checklist procedures. **The facility must ensure that operating procedures are certified annually, as required by 40 CFR 68.69(c).**

**Training [40 CFR 68.71]**

- Training records of three operators were reviewed. Documentation verified initial operator training for two operators, but no records were available of initial operator training for Mr. Ricardo Garcia. Additionally, there was no record of operator training on the new chlorine process checklist procedures. **The facility must ensure that all operators receive initial operator training, as required by 40 CFR 68.71(a)(1).**
- Facility management explained that written tests are given as a means to verify operator understanding of the training received. These written tests however were not available for review. **The facility must ensure that training records include documentation verifying that operators understood the training received, as required by 40 CFR 68.71(c).**

**Compliance Audits [40 CFR 68.79]**

- There was no record of any completed RMP compliance audit. **The facility must ensure that RMP compliance audits are completed every three-years, as required by 40 CFR 68.79(a).**